



# Health Education, B.S. *major*

## (Teacher Licensure)

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Required Credits: 70  
Required GPA: 2.50

### REQUIRED COURSES

Select 1 of the following courses:

- BIOL 1110 Human Biology (4 credits)
- BIOL 1400 Cellular Principles (4 credits)

Complete the following courses:

- BIOL 1111 Anatomy and Physiology for Allied Health I (4 credits)
- HLTH 2100 First Aid and CPR/AED (1 credit)
- HLTH 3150 Theoretical and Ethical Foundations of Health (3 credits)
- HLTH 3200 Personal and Consumer Health (3 credits)
- HLTH 3300 Nutrition (3 credits)
- HLTH 3500 Community Health (3 credits)
- HLTH 3710 Disease Prevention and Epidemiology (3 credits)
- HLTH 4206 Secondary School Health (2 credits)
- HLTH 4410 Health Programming (3 credits)
- PHED 3300 Physiology of Exercise and Nutrition (3 credits)
- PHED 4309 Legal Aspects of Sport, Health, and Fitness (3 credits)

Complete the following course:

- HLTH 4920 Directed Group Study: Health Seminar (1 credit)

Complete the following course:

- HLTH 4870 Practicum in Health Teaching (1 credit)

### REQUIRED PROFESSIONAL EDUCATION COURSES

Complete the following courses with a minimum 2.50 GPA:

- ED 3100 Introduction to the Foundations of Public School Education (3 credits)
- ED 3110 Educational Psychology (3 credits)
- ED 3140 Human Diversity and Educational Equity (3 credits)
- ED 3350 Principles and Strategies of Teaching (3 credits)
- ED 3780 Inclusive Teaching and Classrooms (3 credits)
- ED 4737 Content Area Reading (3 credits)
- ED 4799 The Professional Teacher (1 credit)

Complete the following course:

- HLTH 3400 Health and Drugs in Society (2 credits)

Complete 12 credits of student teaching:

- ED 4830 Student Teaching - Secondary (1-12 credits)

### Program Learning Outcomes | Health Education, B.S. (Teacher Licensure)

1. Prevent Accidents and Reduce the Risk: A teacher of health understands behaviors and factors that prevent or reduce the risk of accidents, sudden illness, and violent injuries; including prevention or reducing the risk of tobacco use, or alcohol and other drug abuse.

2. Philosophy of Health Promotion: A teacher of health understands concepts related to health promotion and disease prevention including: the need for and role of a philosophy of health, health education, and health promotion.

3. Individual Responsibility: A teacher of health understands health-enhancing behaviors that reduce health risks including: the importance of individual responsibility for health.

4. Effects of Media on Behavior: A teacher of health understands the effects of advertising, media, technology, and social norms on health behaviors.

5. A teacher of health understands how to use interpersonal skills to enhance health including: Models and strategies for teaching communication skills for expressing needs, wants and feelings, communication, care, consideration, and respect for self and others; conflict resolution, and refusal skills.

6. A teacher of health demonstrates an understanding of the teaching of health that integrates: Understand and apply research base for and the best practices of middle and high school education.

7. Health Pedagogy: A teacher of health demonstrates an understanding of the teaching of health pedagogy, students, learning, classroom management, and professional development.

### Suggested Semester Schedule | Health Education, B.S. (Teacher Licensure)

The following is a list of required Health Education Major, B.S. courses arranged by year. This schedule is intended to help students plan their courses in an orderly fashion; however, these are only suggestions and this schedule is flexible.

Freshman

- BIOL1110  
or BIOL1400
- HLTH2100
- Core Curriculum requirements

Sophomore

- BIOL1111
- HLTH3150
- HLTH3200
- Complete Core Curriculum requirements
- Take the Minnesota Teacher Licensure Exam (MTLE) Basic Skills test

Junior

- Begin Professional Education Standards of Effective Practice (SEP) courses
- HLTH3300
- PHED3300
- HLTH3500
- HLTH3710
- HLTH4206
- HLTH4970

Senior

- HLTH4410
- HLTH4920
- PHED4309
- Complete Professional Education Standards of Effective Practice (SEP) courses
- Student teaching



## Science Education, B.S. *major*

### Chemistry Specialty (Teacher Licensure)

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Required Credits: 78

Required GPA: 2.50

#### Core Courses for Science Teaching in Grades 5-8

Complete the following courses:

- BIOL 1400 Cellular Principles (4 credits)  
or BIOL 1110 Human Biology (4 credits)
- BIOL 1500 Diversity of Life (4 credits)  
or BIOL 1120 General Biology: Evolution And Ecology (3 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)  
or CHEM 1111 General Chemistry I (4 credits)
- CHEM 2212 Principles of Chemistry II (4 credits)  
or CHEM 1112 General Chemistry II (4 credits)
- GEOL 1110 Physical Geology (4 credits)
- SCI 3100 Integrative Science for Teachers (4 credits)
- SCI 3450 Science Methods For Grades 5-8 (4 credits)  
or ED 3410 Secondary Science Methods (4 credits)

#### REQUIRED PROFESSIONAL EDUCATION COURSES

Complete the following courses with a minimum 2.50 GPA:

- ED 3100 Introduction to the Foundations of Public School Education (3 credits)
- ED 3110 Educational Psychology (3 credits)
- ED 3140 Human Diversity and Educational Equity (3 credits)
- ED 3350 Principles and Strategies of Teaching (3 credits)
- ED 3780 Inclusive Teaching and Classrooms (3 credits)
- ED 4737 Content Area Reading (3 credits)
- ED 4799 The Professional Teacher (1 credit)

Complete the following course:

- HLTH 3400 Health and Drugs in Society (2 credits)

Complete 12 credits of student teaching:

- ED 4830 Student Teaching - Secondary (1-12 credits)

#### CHEMISTRY SPECIALTY

Complete the following courses:

- CHEM 3110 Laboratory Management and Safety (2 credits)
- CHEM 3311 Organic Chemistry I (3 credits)
- CHEM 3312 Organic Chemistry II (3 credits)
- CHEM 3371 Organic Chemistry Laboratory I (1 credit)
- CHEM 3372 Organic Chemistry Laboratory II (1 credit)
- CHEM 3507 Analytical Chemistry (3 credits)
- CHEM 3570 Analytical Chemistry Laboratory (1 credit)
- CHEM 3980 Research (1-2 credits)

Select 1 of the following courses:

- CHEM 3811 Intermediate Inorganic Chemistry (3 credits)
- CHEM 4411 Biochemistry I (3 credits)



## Science Education, B.S. *major*

### Physics Specialty (Teacher Licensure)

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Required Credits: 82

Required GPA: 2.50

#### Core Courses for Science Teaching in Grades 5-8

COMPLETE THE FOLLOWING COURSES:

- BIOL 1400 Cellular Principles (4 credits)  
or BIOL 1110 Human Biology (4 credits)
- BIOL 1500 Diversity of Life (4 credits)  
or BIOL 1120 General Biology: Evolution And Ecology (3 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)  
or CHEM 1111 General Chemistry I (4 credits)
- CHEM 2212 Principles of Chemistry II (4 credits)  
or CHEM 1112 General Chemistry II (4 credits)
- GEOL 1110 Physical Geology (4 credits)
- SCI 3100 Integrative Science for Teachers (4 credits)
- SCI 3450 Science Methods For Grades 5-8 (4 credits)  
or ED 3410 Secondary Science Methods (4 credits)

#### REQUIRED PROFESSIONAL EDUCATION COURSES

Complete the following courses with a minimum 2.50 GPA:

- ED 3100 Introduction to the Foundations of Public School Education (3 credits)
- ED 3110 Educational Psychology (3 credits)
- ED 3140 Human Diversity and Educational Equity (3 credits)
- ED 3350 Principles and Strategies of Teaching (3 credits)
- ED 3780 Inclusive Teaching and Classrooms (3 credits)
- ED 4737 Content Area Reading (3 credits)
- ED 4799 The Professional Teacher (1 credit)

Complete the following course:

- HLTH 3400 Health and Drugs in Society (2 credits)

Complete 12 credits of student teaching:

- ED 4830 Student Teaching - Secondary (1-12 credits)

#### PHYSICS SPECIALTY

Complete the following courses:

MATH 2471 is recommended (required for PHYS 2101)

- PHYS 2101 University Physics I (4 credits)  
or PHYS 1101 General Physics I (4 credits)
- PHYS 2102 University Physics II (4 credits)  
or PHYS 1102 General Physics II (4 credits)
- PHYS 3103 University Physics III (4 credits)
- PHYS 3300 Thermal and Statistical Physics (3 credits)  
or CHEM 4711 Physical Chemistry I (3 credits)
- PHYS 4300 Optics (4 credits)

Complete the following course:

- PHYS 4980 Research (3 credits)



# Science Education, B.S. *major*

## Life Science Specialty (Teacher Licensure)

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Required Credits: 83  
Required GPA: 2.50

### Core Courses for Science Teaching in Grades 5-8

Complete the following courses:

- BIOL 1400 Cellular Principles (4 credits)  
*or* BIOL 1110 Human Biology (4 credits)
- BIOL 1500 Diversity of Life (4 credits)  
*or* BIOL 1120 General Biology: Evolution And Ecology (3 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)  
*or* CHEM 1111 General Chemistry I (4 credits)
- CHEM 2212 Principles of Chemistry II (4 credits)  
*or* CHEM 1112 General Chemistry II (4 credits)
- GEOL 1110 Physical Geology (4 credits)
- SCI 3100 Integrative Science for Teachers (4 credits)
- SCI 3450 Science Methods For Grades 5-8 (4 credits)  
*or* ED 3410 Secondary Science Methods (4 credits)

### REQUIRED PROFESSIONAL EDUCATION COURSES

Complete the following courses with a minimum 2.50 GPA:

- ED 3100 Introduction to the Foundations of Public School Education (3 credits)
- ED 3110 Educational Psychology (3 credits)
- ED 3140 Human Diversity and Educational Equity (3 credits)
- ED 3350 Principles and Strategies of Teaching (3 credits)
- ED 3780 Inclusive Teaching and Classrooms (3 credits)
- ED 4737 Content Area Reading (3 credits)
- ED 4799 The Professional Teacher (1 credit)

Complete the following course:

- HLTH 3400 Health and Drugs in Society (2 credits)

Complete 12 credits of student teaching:

- ED 4830 Student Teaching - Secondary (1-12 credits)

### LIFE SCIENCE SPECIALTY

#### A. Required Biology Courses

Complete the following courses:

- BIOL 2360 Genetics (4 credits)
- BIOL 2610 General Ecology (3 credits)
- BIOL 3710 Microbiology (4 credits)
- BIOL 4620 Evolution (3 credits)
- BIOL 3720 Plant Form and Function (4 credits)  
*or* BIOL 3830 Aquatic Plants and Algae (4 credits)
- BIOL 4894 Advanced Research Project I (2 credits)  
*or* BIOL 4895 Advanced Research Project II (2 credits)

#### B. Required Biology Elective

Select 1 of the following courses:

- BIOL 3150 Animal Behavior (3 credits)
- BIOL 3310 Entomology (3 credits)
- BIOL 4510 Ornithology (3 credits)
- BIOL 4520 Mammalogy (3 credits)

- BIOL 4534 Ichthyology (4 credits)

### Suggested Semester Schedule | Science Education, B.S. Life Science Specialty (Teacher Licensure)

The following is a list of required Science (Life Science) Major, B.S. courses arranged by year. This schedule is intended to assist students in planning their courses. There is some flexibility in this schedule, but graduation within four years will require close adherence to the specified sequence of courses. Always consult your Biology academic advisor as to the proper courses and sequence of courses needed for graduation. It is possible, in some circumstances, that courses in a student's Core Curriculum program may be used in his or her academic major.

#### Freshman

- BIOL 1400 Cellular Principles (4 credits)
- BIOL 1500 Diversity of Life (4 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)
- Core Curriculum requirements

#### Sophomore

- BIOL 2360 Genetics (4 credits)
- BIOL 2610 General Ecology (3 credits)
- BIOL 4894 Advanced Research Project I (2 credits) *or* BIOL 4895
- BIOL 3720 Plant Form and Function (4 credits)
- GEOL 1110 Physical Geology (4 credits)
- PHYS 1101 General Physics I (4 credits)  
*or* PHYS 2101 University Physics I (4 credits)
- Consider starting Professional Education sequence
- Core Curriculum requirements

#### Junior

- BIOL 3710 Microbiology (4 credits)
- SCI 3100 Integrative Science for Teachers (4 credits)
- SCI 3450 Science Methods For Grades 5-8 (4 credits)
- Other Professional Education requirements
- Core Curriculum requirements

#### Senior

- Biology Elective (BIOL 3150, 3310, 3510, 4520, *or* 4534)
- BIOL 4620 Evolution (3 credits)
- Complete Professional Education requirements, including one semester of student teaching
- Complete Core Curriculum requirements



# Science Education, B.S. *major*

## Earth and Space Science Specialty (Teacher Licensure)

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Required Credits: 86

Required GPA: 2.50

### Core Courses for Science Teaching in Grades 5-8

Complete the following courses:

- BIOL 1400 Cellular Principles (4 credits)  
*or* BIOL 1110 Human Biology (4 credits)
- BIOL 1500 Diversity of Life (4 credits)  
*or* BIOL 1120 General Biology: Evolution And Ecology (3 credits)
- CHEM 2211 Principles of Chemistry I (4 credits)  
*or* CHEM 1111 General Chemistry I (4 credits)
- CHEM 2212 Principles of Chemistry II (4 credits)  
*or* CHEM 1112 General Chemistry II (4 credits)
- GEOL 1110 Physical Geology (4 credits)
- SCI 3100 Integrative Science for Teachers (4 credits)
- SCI 3450 Science Methods For Grades 5-8 (4 credits)  
*or* ED 3410 Secondary Science Methods (4 credits)

### REQUIRED PROFESSIONAL EDUCATION COURSES

Complete the following courses with a minimum 2.50 GPA:

- ED 3100 Introduction to the Foundations of Public School Education (3 credits)
- ED 3110 Educational Psychology (3 credits)
- ED 3140 Human Diversity and Educational Equity (3 credits)
- ED 3350 Principles and Strategies of Teaching (3 credits)
- ED 3780 Inclusive Teaching and Classrooms (3 credits)
- ED 4737 Content Area Reading (3 credits)
- ED 4799 The Professional Teacher (1 credit)

Complete the following course:

- HLTH 3400 Health and Drugs in Society (2 credits)

Complete 12 credits of student teaching:

- ED 4830 Student Teaching - Secondary (1-12 credits)

### EARTH AND SPACE SCIENCE SPECIALTY

Complete the following courses:

- ENVR 2000 Introduction to Environmental Science (3 credits)
- GEOL 1120 Intro to Fossils and History of Planet Earth (4 credits)
- GEOL 2110 Crystals, Minerals and Rocks (4 credits)
- GEOL 3500 Topics in Paleontology (3 credits)
- GEOL 3600 Stratigraphy and Sedimentation (3 credits)
- PHYS 2000 Astronomy (3 credits)

Select 1 of the following courses:

- GEOL 3211 Environmental Hydrology (3 credits)
- ENVR 4050 Geochemistry (3 credits)

Select 1 of the following courses:

- GEOL 4970 Internship (3 credits)
- GEOL 4980 Research (3 credits)